



Measuring Forest Height and Biomass from Space

Lola Fatoyinbo Agueh
NASA

Goddard Space Flight Center

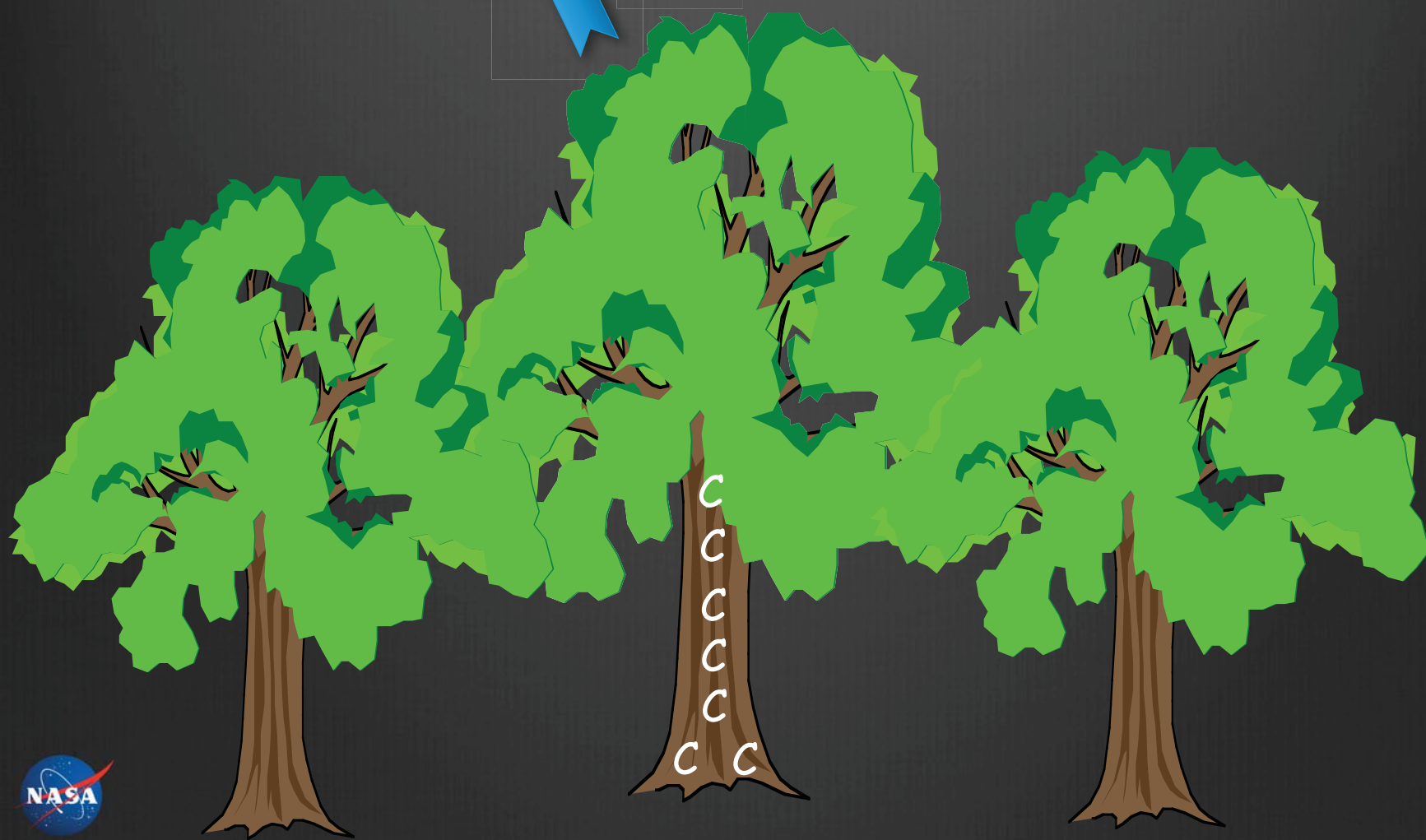
A photograph of a dense forest with a path leading through trees. The trees are green and the path is dirt. The text "20 %" is overlaid in the center.

20 %

Of global Carbon emissions come from deforestation
Greater than emissions from every car, truck and plane on the planet combined

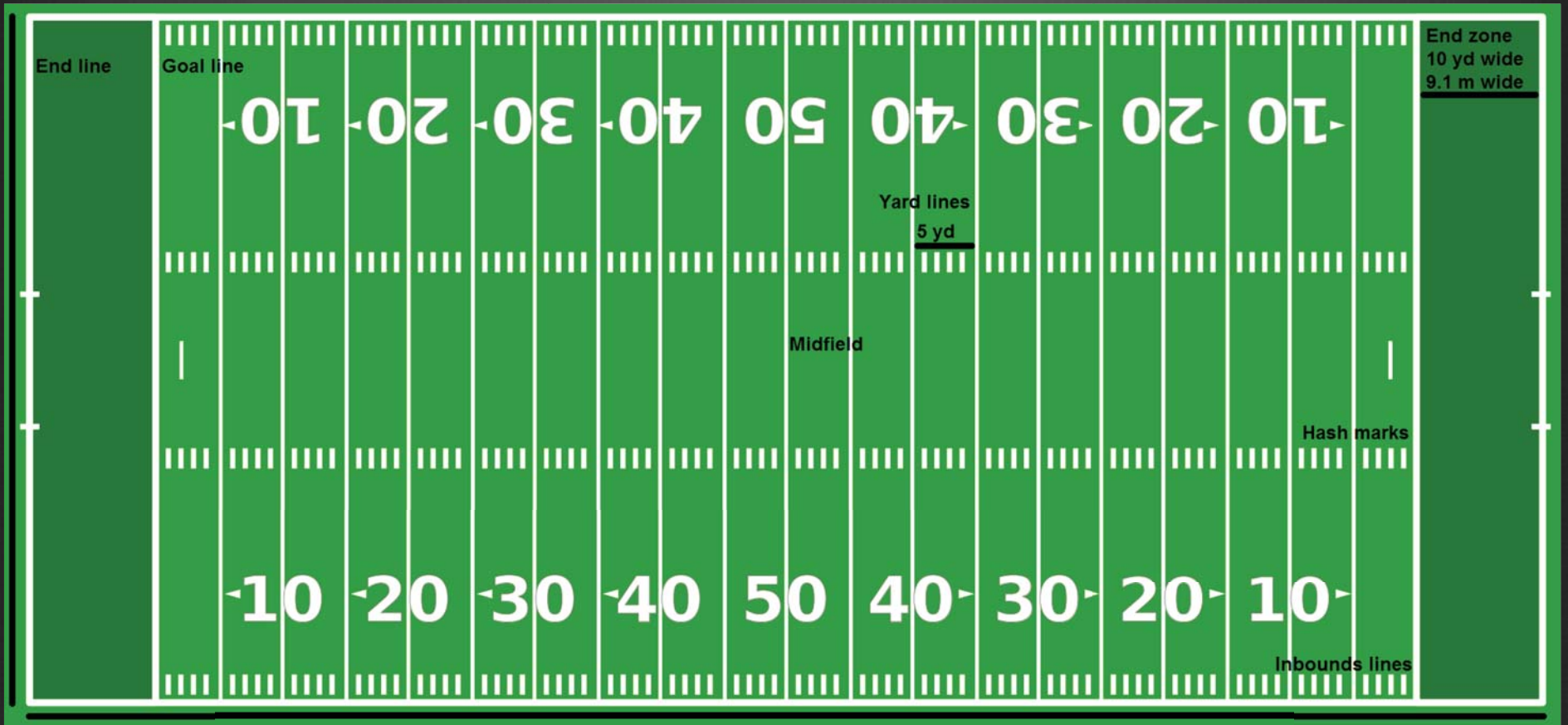


O_2 CO_2





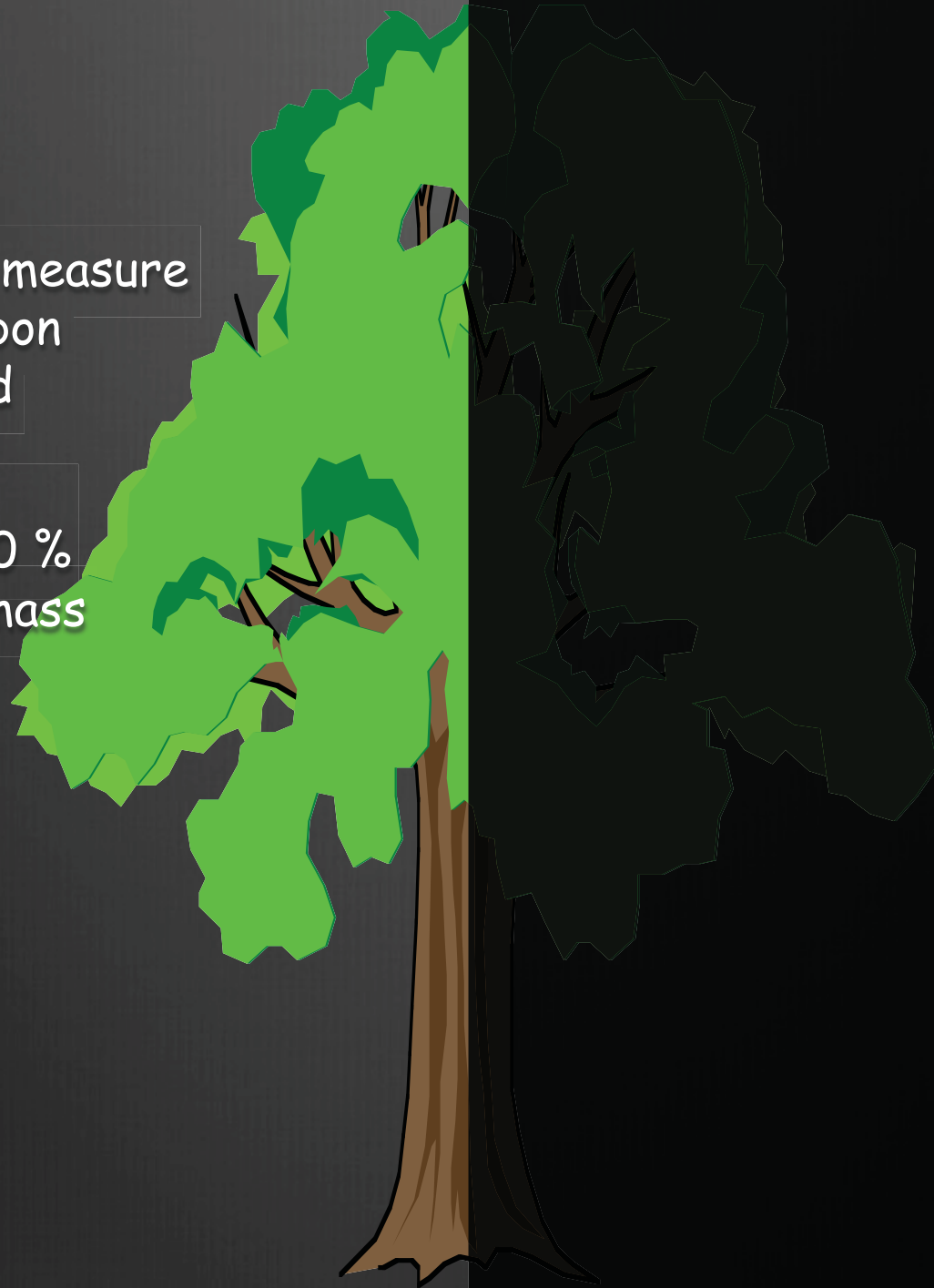
Every 2 seconds



An area the size of a football field is cleared



- How do we measure forest carbon storage and emissions?
- Carbon = 50 % forest biomass



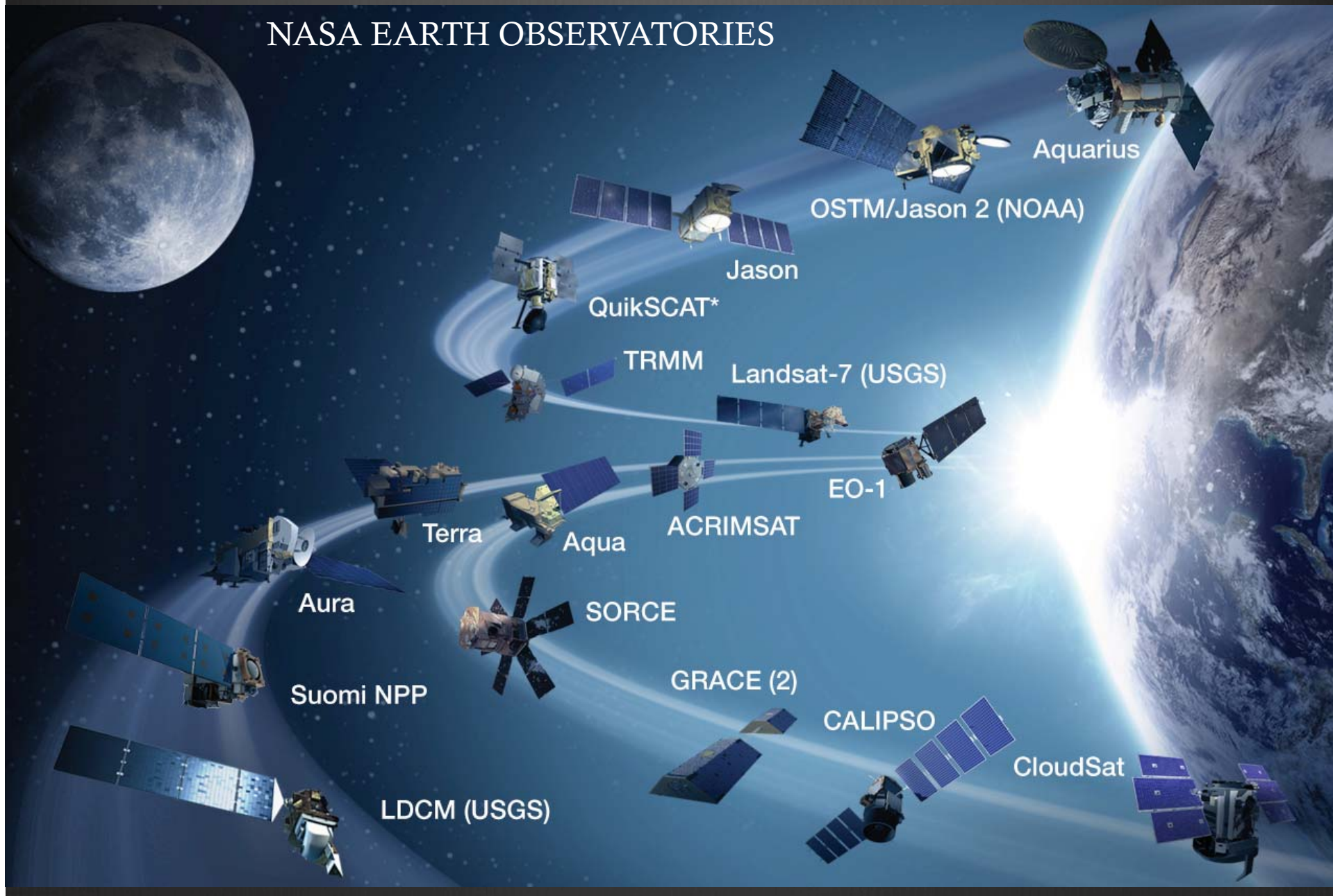
- Harvesting
 - Destructive ✓
 - Inefficient ✓



- Forestry Plots
 - Inefficient ✓



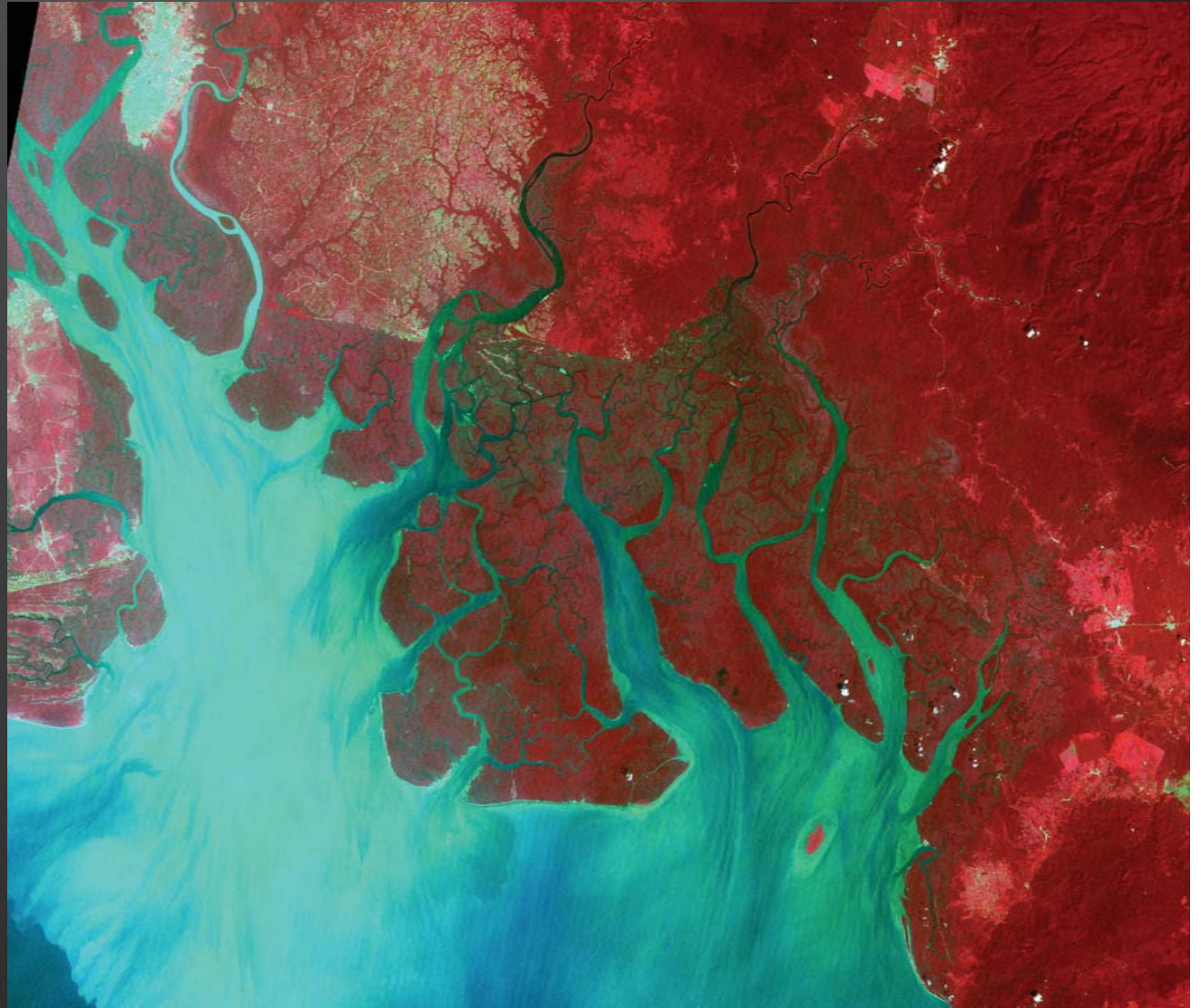
NASA EARTH OBSERVATORIES



Remote Sensing

Traditionally:

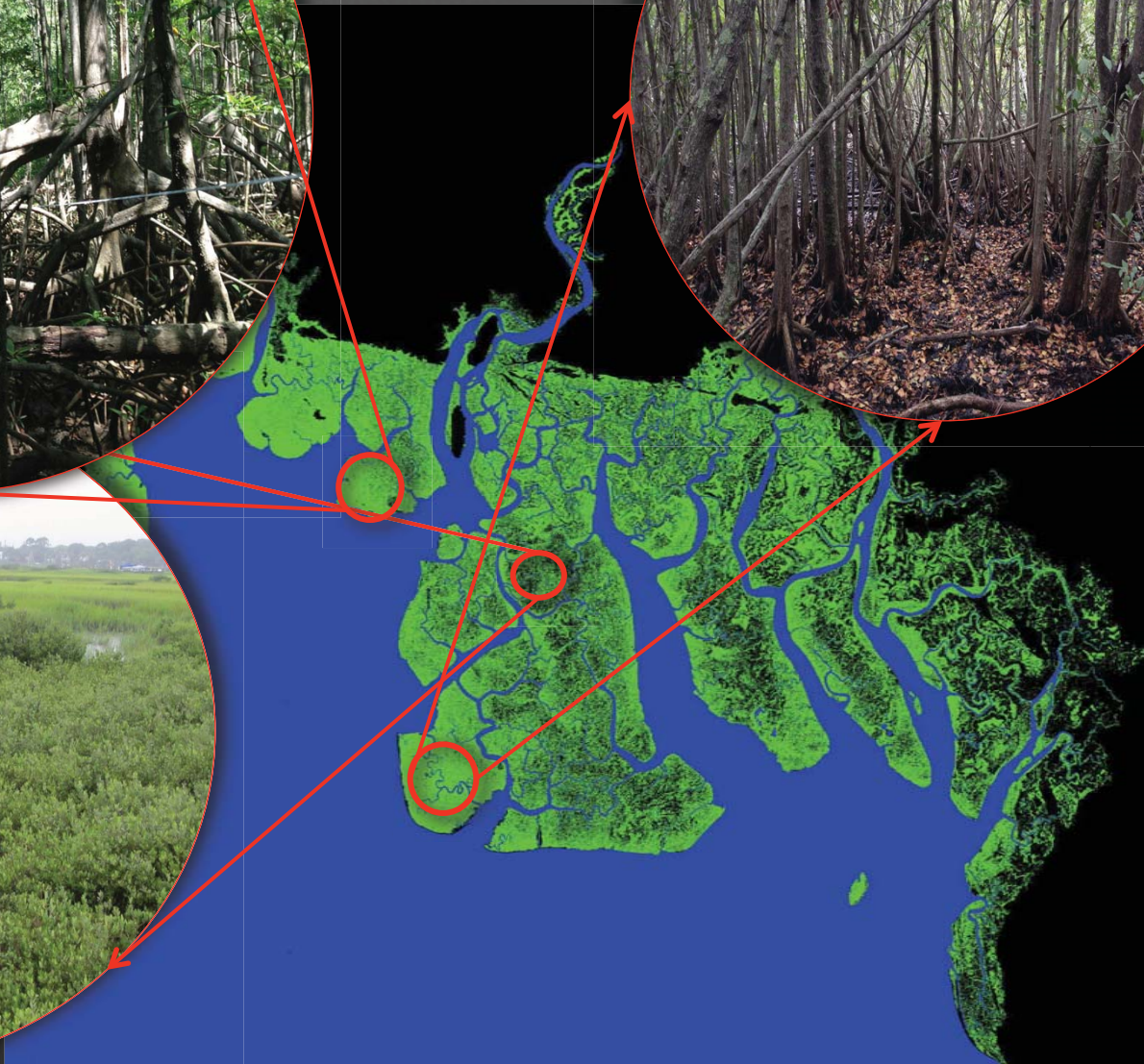
- Map by forest type



Remote Sensing

Trace

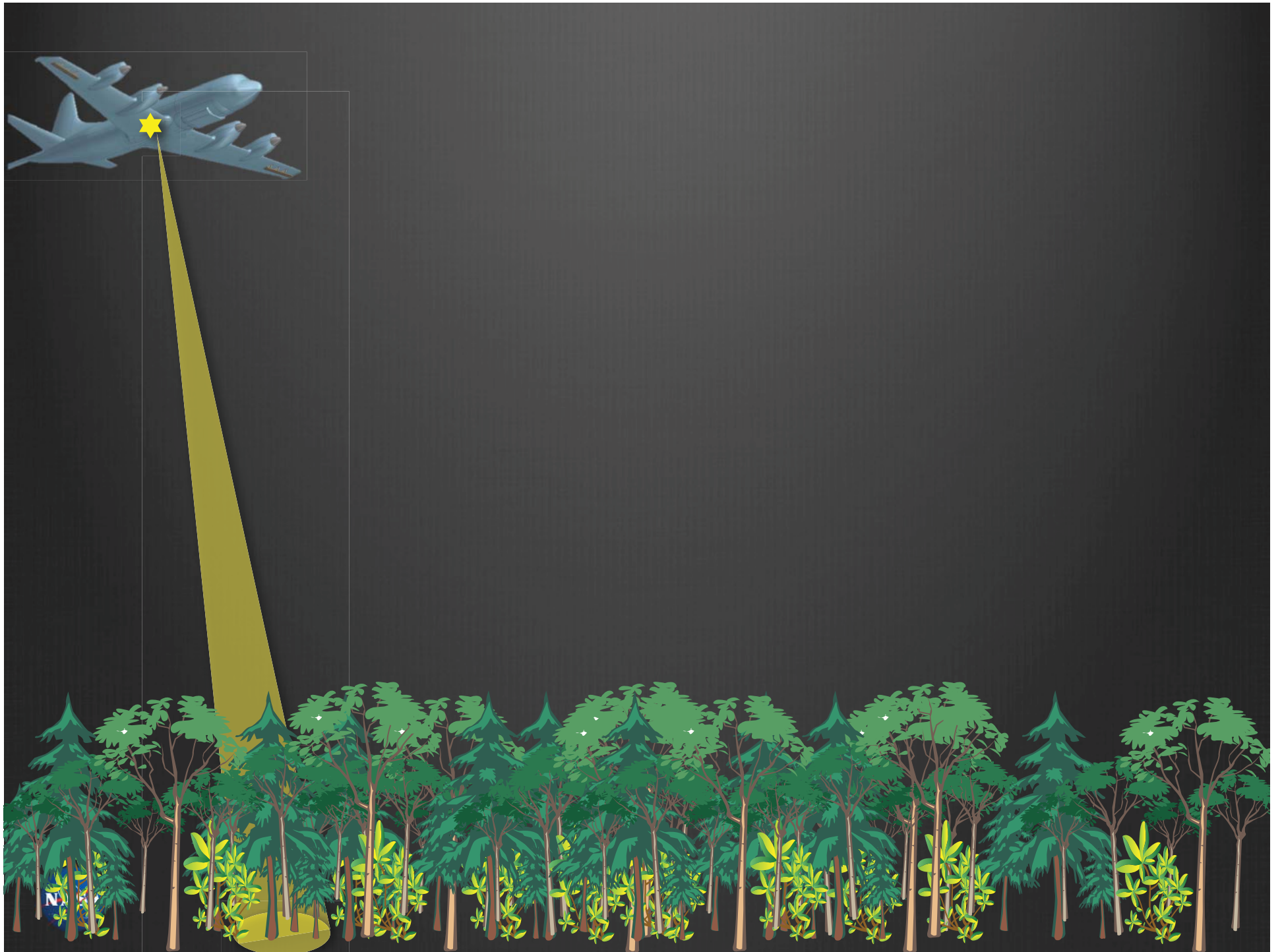
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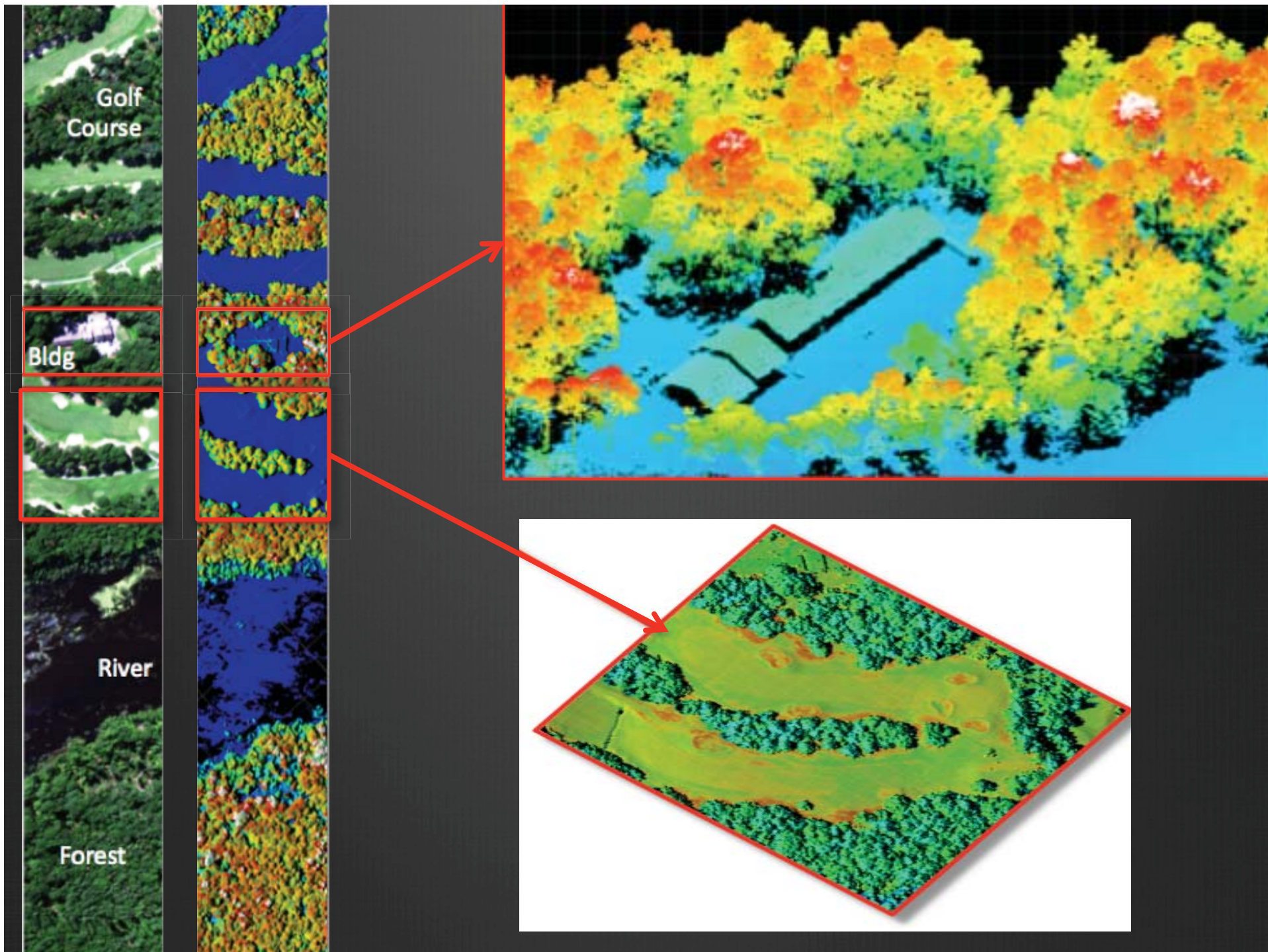
LiDAR

Light Detection And Ranging



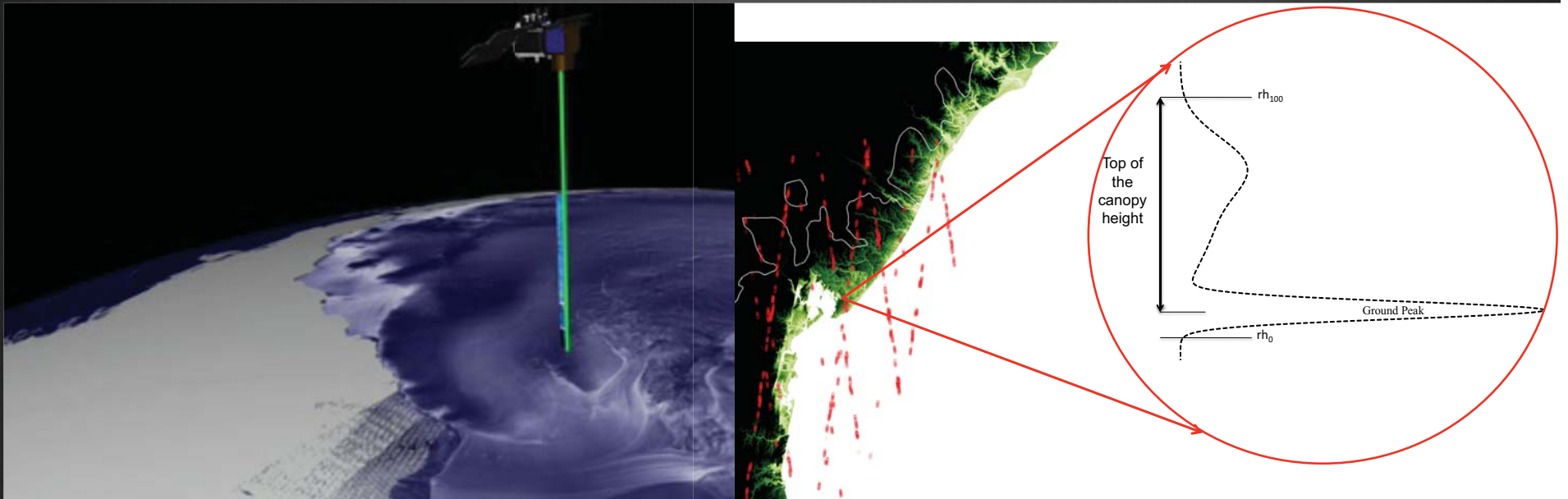








ICESAT/GLAS: 1st LiDAR in Space



Ice Cloud and Land Elevation Satellite/ Geoscience Laser Altimeter System

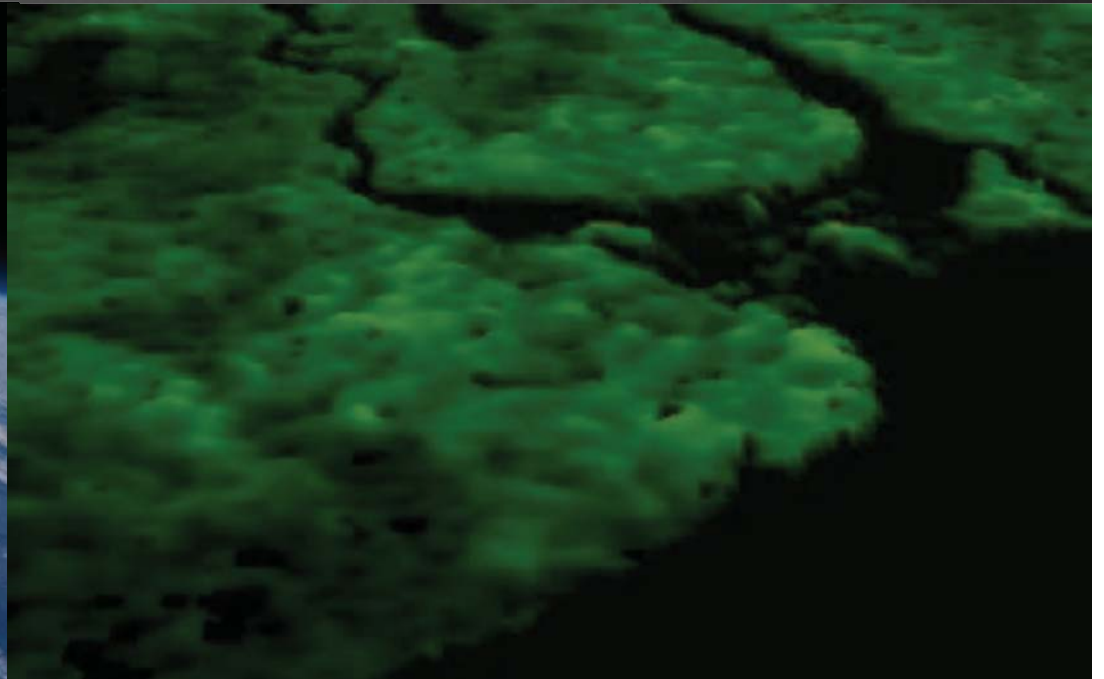
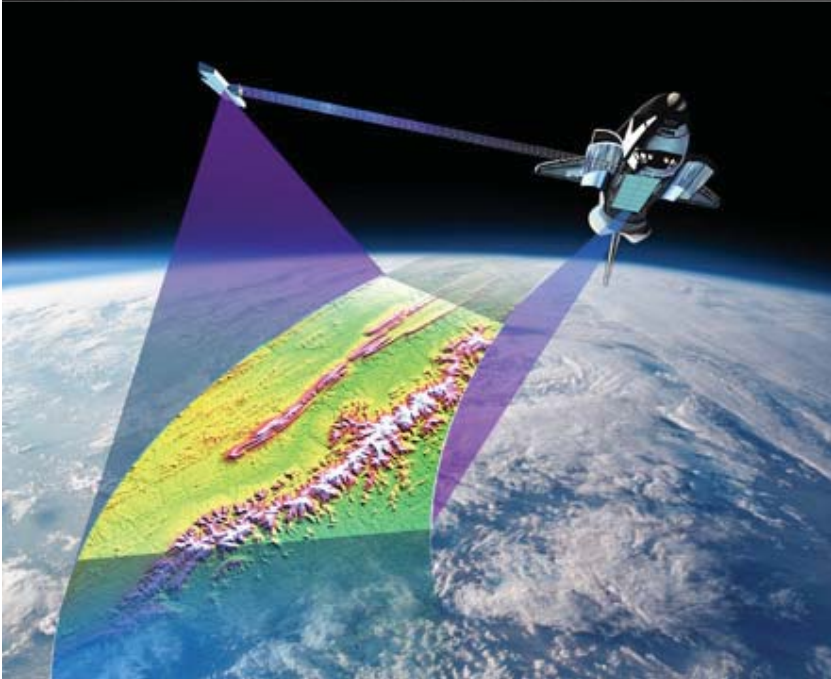


InSAR:

Interferometric Synthetic Aperture Radar



Shuttle Radar Topography Mission: 1st InSAR in Space



New Technology: EcoSAR

